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(54) Improvement in fluidized bed reaction systems using unsupported catalysts

(57) A process is described for increasing the space time yield of polymer production in a fluidized bed reactor employing an exothermic polymerization reaction by

cooling the recycle stream to below its dew point and returning the resultant two-phase fluid stream to the reactor to maintain the fluidized bed at a desired temperature above the dew point of the recycle stream.

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## EUROPEAN SEARCH REPORT

Application Number  
EP 96 30 9218

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
Y,D	US 4 543 399 A (JENKINS III JOHN M ET AL) 24 September 1985 * abstract; claims 1,4,15,18 *	1,2,4,5	C08F10/02 C08F2/34						
Y,D	US 5 317 036 A (UNION CARBIDE CHEM PLASTIC) 20 April 1994 * abstract; claims 1-4,15-18; example 1 *	1,2,4,5							
A	EP 0 659 773 A (UNION CARBIDE CHEM PLASTIC) 28 June 1995 * page 6, line 30-38 - page 7, line 29-36 * abstract *	1,4,5							
			TECHNICAL FIELDS SEARCHED (Int.Cl.)						
			C08F						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>25 September 1997</td> <td>Gamb, V</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	25 September 1997	Gamb, V
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<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document							